

KK7406

Hex Inverter Buffers/Drivers with Open-Collector High-Voltage Outputs

The KK7406 monolithic TTL hex inverter buffers/drivers feature high-voltage open collector outputs for interfacing with high-level circuits (such as MOS) or for driving high-current loads (such as lamps or relays), and are also characterized for use as inverter buffers for driving TTL inputs.

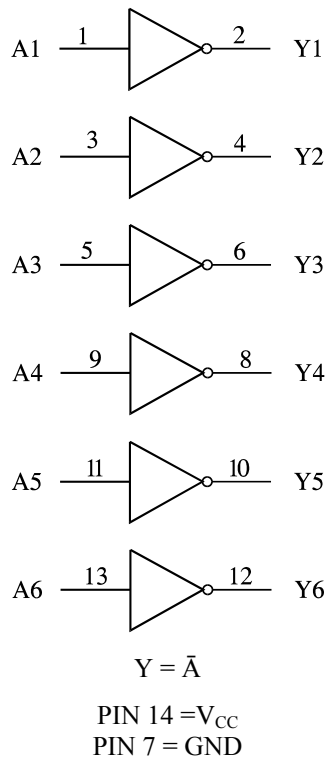
- Minimum breakdown Voltages is 30 V
- Maximum sink Current is 40 mA
- Converts TTL Voltage Levels to MOS Levels
- Open-Collector Driver for Indicator Lamps and Relays
- Inputs Fully Compatible with MOST TTL Circuits.

N SUFFIX PLASTIC

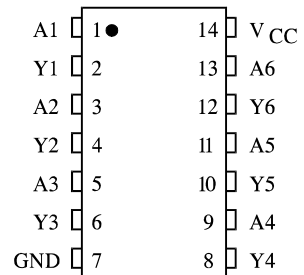
D SUFFIX SOIC

ORDERING INFORMATION
 KK7406N Plastic
 KK7406D SOIC
 T_A = -10° to 70° C for all packages

LOGIC DIAGRAM



PIN ASSIGNMENT



FUNCTION TABLE

Inputs	Output
A	Y
L	Z
H	L

Z = High Impedance

MAXIMUM RATINGS*

Symbol	Parameter	Value	Unit
V _{CC}	Supply Voltage	7.0	V
V _{IN}	Input Voltage	5.5	V
V _{OUT}	Output Voltage	30	V
T _{stg}	Storage Temperature Range	-65 to +150	°C

*Maximum Ratings are those values beyond which damage to the device may occur. Functional operation should be restricted to the Recommended Operating Conditions.

RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Min	Max	Unit
V _{CC}	Supply Voltage	4.75	5.25	V
V _{IH}	High Level Input Voltage	2.0		V
V _{IL}	Low Level Input Voltage		0.8	V
U _{OH}	High Level Output Voltage		30	V
I _{OL}	Low Level Output Current		40	mA
T _A	Ambient Temperature Range	-10	+70	°C

DC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test Conditions	Guaranteed Limit		Unit
			Min	Max	
V _{IK}	Input Clamp Voltage	V _{CC} = 4.75V, I _{IN} = -12 mA		-1.5	V
I _{OH}	High Level Output Current	V _{CC} = 4.75V, V _{OH} = 30V		0.25	mA
V _{OL}	Low Level Output Voltage	V _{CC} = 4.75V, I _{OL} = 16 mA		0.4	V
		V _{CC} = 4.75V, I _{OL} = 40 mA		0.7	
I _{IH}	High Level Input Current	V _{CC} = 5.25V, V _{IN} = 2.4 V		0.04	mA
I _{IL}	Low Level Input Current	V _{CC} = 5.25V, V _{IN} = 0.4 V		-1.6	mA
I _{CC}	Supply Current	V _{CC} = 5.25V	Outputs High	48	mA
			Outputs Low	51	

AC ELECTRICAL CHARACTERISTICS ($T = 25^{\circ}\text{C}$, $V_{CC} = 5.0\text{ V}$, $C_L = 15\text{ pF}$,
 $R_L = 110\ \Omega$, Input $t_r = t_f = 10\text{ ns}$)

Symbol	Parameter	Min	Max	Unit
t_{PLH}	Propagation Delay Time, Low to High Level Output (from Input to Output)		18	ns
t_{PHL}	Propagation Delay Time, High to Low Level Output (from Input to Output)		28	ns

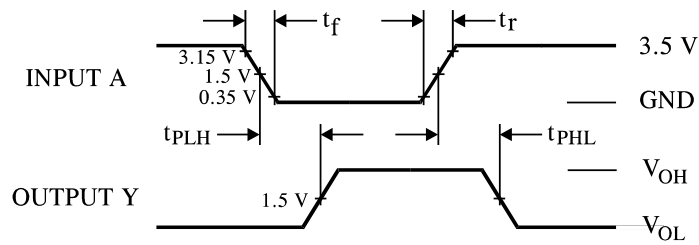
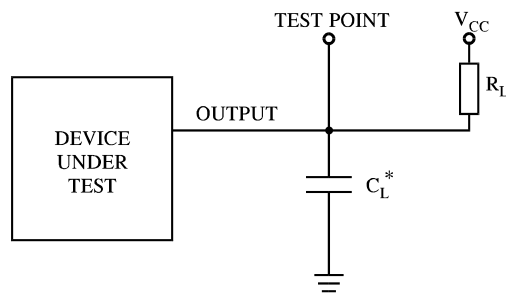


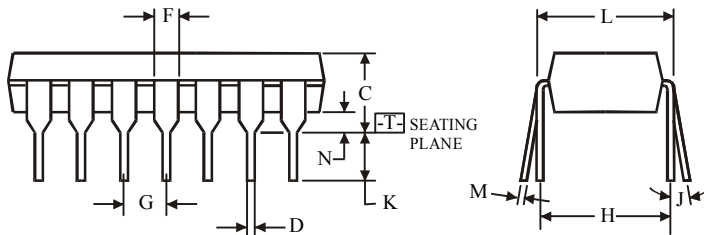
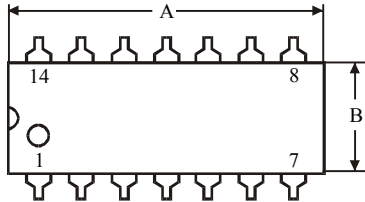
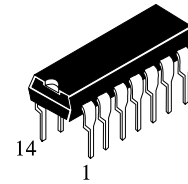
Figure 1. Switching Waveforms



* Includes all probe and jig capacitance

Figure 2. Test Circuit

**N SUFFIX PLASTIC DIP
(MS - 001AA)**



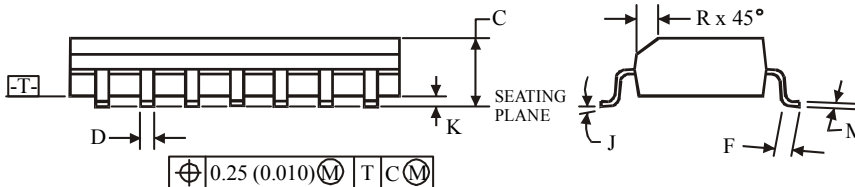
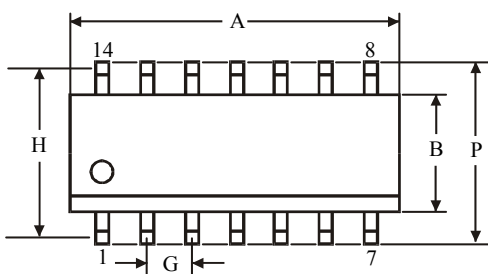
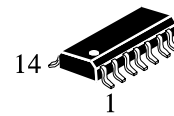
$\oplus 0.25 (0.010) \text{ (M) T}$

NOTES:

- Dimensions "A", "B" do not include mold flash or protrusions.
Maximum mold flash or protrusions 0.25 mm (0.010) per side.

Symbol	Dimension, mm	
	MIN	MAX
A	18.67	19.69
B	6.1	7.11
C		5.33
D	0.36	0.56
F	1.14	1.78
G	2.54	
H	7.62	
J	0°	10°
K	2.92	3.81
L	7.62	8.26
M	0.2	0.36
N	0.38	

**D SUFFIX SOIC
(MS - 012AB)**



$\oplus 0.25 (0.010) \text{ (M) T C (M)}$

NOTES:

- Dimensions A and B do not include mold flash or protrusion.
- Maximum mold flash or protrusion 0.15 mm (0.006) per side for A; for B - 0.25 mm (0.010) per side.

Symbol	Dimension, mm	
	MIN	MAX
A	8.55	8.75
B	3.8	4
C	1.35	1.75
D	0.33	0.51
F	0.4	1.27
G	1.27	
H	5.27	
J	0°	8°
K	0.1	0.25
M	0.19	0.25
P	5.8	6.2
R	0.25	0.5